

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of: Verhaverbeke

Serial No.: 10/676,182

Confirmation No.: 6792

Filed: September 30, 2003

For: Dilute Sulfuric Peroxide at the
Point-of-Use

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Group Art Unit: 1792

Examiner: Saeed T. Chaudhry

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Keith M. Tackett

REPLY BRIEF

Applicant submits this Reply Brief to the Board of Patent Appeals and Interferences on appeal from the decision of the Examiner of Group Art Unit 1792 dated November 5, 2007, finally rejecting claims 1-5, 9-14, 17-20, 24-30, 34-38, 40, 42, 43, and 45, and in response to the Examiner's Answer dated November 5, 2007, which contains a new ground of rejection. Applicant maintains the appeal against rejection of claims 1-5, 9-14, 17-20, 24-30, 34-38, 40, 42, 43, and 45. One copy of this brief is submitted for use by the Board.

Status of Claims

Claims 1-5, 9-14, 17-20, 24-30, 34-38, 40, 42, 43, and 45 are pending in the application. Claims 1-37 were originally presented in the application. Claims 1, 3, 9, 14, 17, 24, 29, and 34 were amended, and claims 6-8, 21-23, and 31-33 were canceled in the preliminary amendment filed on September 28, 2004. Claims 1, 3, 4, 5, 9, 10, 14, 16-20, 24, 25, 29, 30, 34, and 37 were amended, claim 15 was canceled, and claims 38-45 were added in the Response to Office Action dated July 28, 2005, that was filed on October 27, 2005. Claims 1, 5, 14, 20, 29, and 30 were amended, and claims 16, 39, 41, and 44 were canceled in the preliminary amendment filed with a Request for Continued Examination (RCE) on April 10, 2006. Claims 1, 14, 25, 29, and 37 were amended in the Response to Office Action dated June 13, 2006, that was filed on August 30, 2006. Claims 1-5, 9-14, 17-20, 24-30, 34-38, 40, 42, 43, and 45 stand finally rejected as discussed below. The final rejection of claims 1-5, 9-14, 17-20, 24-30, 34-38, 40, 42, 43, and 45 is appealed. Claims 36 and 37 were rejected on new grounds in the Examiner's Answer dated July 11, 2007. Applicant responded to the new ground of rejection in a Substitute Appeal Brief dated September 10, 2007, and the Examiner maintained the new ground of rejection in his Answer dated November 5, 2007.

Grounds of Rejection to be Reviewed on Appeal

1. Claims 1-2, 5, 9-12, 14, 20, and 24-27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Ramachandran, et al.* (WO-02/10480).

2. Claims 1-2, 5, 9-12, 14, 20, and 24-27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Rath, et al.* (U.S. Patent No. 6,630,074).

3. Claims 1-2, 5, 9-12, 14, 20, 24-27, and 38 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Rath, et al.* (EP-0918081).

4. Claims 1, 2, 5, 9-10, 14, 20, 24-25, and 38 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Kuhn-Kuhnenfeld, et al.* (U.S. Patent No. 4,100,014).

5. Claims 3-4, 17-19, 29-30, 34-35, 40, 42-43, and 45 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Rath, et al.* (U.S. Patent No. 6,630,074 or EP-0918081) or *Ramachandran, et al.* (WO-02/10480) or *Kuhn-Kuhnenfeld, et al.* (U.S. Patent No. 4,100,014) in view of *Gotoh, et al.* (U.S. Patent No. 5,650,041).

6. Claims 13 and 28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Rath, et al.* (U.S. Patent No. 6,630,074 and EP-0918081) or *Ramachandran, et al.* in view of *Oonishi, et al.* (U.S. Patent No. 6,273,959).

7. (New) Claims 36-37 stand newly rejected under 35 U.S.C. § 103(a) as being unpatentable over *Rath, et al.* (U.S. Patent No. 6,630,074 and EP-0918081) or *Ramachandran, et al.* in view of *Gotoh, et al.* (U.S. Patent No. 5,650,041) as applied to claim 34 above, and further in view of *Oonishi, et al.* (U.S. Patent No. 6,273,959).

ARGUMENT

1. Reply with respect to the rejection of claims 1-2, 5, 9-12, 14, 20, and 24-27 under 35 U.S.C. § 103(a) over *Ramachandran, et al.* (WO-02/10480).

THE EXAMINER ERRED IN REJECTING CLAIMS 1-2, 5, 9-12, 14, 20, and 24-27 UNDER 35 U.S.C § 103(A) BECAUSE *RAMACHANRAN, ET AL.* DOES NOT TEACH, SHOW, SUGGEST, OR RENDER OBVIOUS USING AN AQUEOUS SOLUTION COMPRISING SULFURIC ACID, WITH A HYDROGEN PEROXIDE SOLUTION, WHEREIN THE CONCENTRATION OF THE SULFURIC ACID IS ABOUT 70% OR LESS BY WEIGHT, TO FORM AN INTERMEDIATE SOLUTION AT A PREDETERMINED TEMPERATURE THAT IS DILUTED TO FORM A CLEANING SOLUTION.

Ramachandran, et al. (hereinafter "Ramachandran") has been discussed on the record in prior documents. The Examiner asserts that Ramachandran renders the claimed method obvious to one of ordinary skill in the art at the time of the invention. In response to Applicant's argument that Ramachandran fails to control temperature of an aqueous solution of 98% sulfuric acid in an intermediate solution with hydrogen peroxide and water, which is then mixed with hydrofluoric acid, in contrast to the claimed method of 70% or less sulfuric acid, the Examiner concludes that the claimed method is obvious because it includes a recitation of "70% or less" sulfuric acid, which reads on 0%, and that using 0% sulfuric acid would limit heating to "3°C or less," which reads on 0°C. The Examiner further concludes that the claimed concentration of sulfuric acid is an obvious variant of the concentration used in Ramachandran.

Applicant has stated previously that the claims as written do not encompass adding an aqueous solution having 0% sulfuric acid. Claims 1 and 14 recite that the aqueous solution comprises sulfuric acid, and that the final cleaning solution contains at least about 1% sulfuric acid by weight. The Examiner errs by ignoring this language of the claims, choosing instead to interpret each entire claim according to the phrase "70%

or less.” The Examiner thus erroneously concludes that Applicant claims a method of creating a cleaning solution comprising sulfuric acid wherein the concentration of sulfuric acid can be 0%. Claims must be interpreted as a whole (*see* MPEP § 2141.02), not based on a single limitation. Interpreting claims 1 and 14 as a whole, considering all limitations, leads to the inescapable conclusion that the aqueous solution has a non-zero quantity of sulfuric acid that is 70% or less by weight, and that dilution of the aqueous solution results in a sulfuric acid concentration of from about 1% to about 15% by weight.

Claims 1 and 14 recite that the intermediate solution produced by mixing the aforementioned aqueous solution comprising sulfuric acid with a hydrogen peroxide solution has a temperature 3°C or less higher than the temperatures of the component solutions. The Examiner errs in concluding that the claims encompass a mixing process that does not add sulfuric acid, thus resulting in no temperature change, because such an embodiment would require that the components have the same temperature and undergo no energetic reactions when mixed. This, in turn, requires that the components be free of sulfuric acid, which is erroneous, as discussed above.

Additionally, Ramachandran teaches only use of 98% sulfuric acid solution as a component. There is no art in the record disclosing or teaching a range of concentration or use of dilute sulfuric acid, as claimed by Applicant. The Examiner presents no art teaching zero or limited temperature change on mixing, as claimed by Applicant. Ramachandran discloses no motivation to use any component other than the disclosed concentrated sulfuric acid.

Applicant therefore maintains that Ramachandran does not teach, show, suggest, or render obvious a method for removing a residue from a substrate surface, comprising mixing an aqueous solution comprising sulfuric acid and hydrofluoric acid, wherein a concentration of the sulfuric acid in the aqueous solution is about 70% or less by weight, with a hydrogen peroxide solution to produce an intermediate solution at a predetermined temperature of about 3°C or less higher than temperatures of the aqueous solution and the hydrogen peroxide solution; diluting the intermediate solution with water to form a cleaning solution, wherein the cleaning solution comprises hydrogen peroxide at a concentration within a range from about 1% to about 15% by

weight, sulfuric acid at a concentration within a range from about 1% to about 10% by weight, and hydrogen fluoride at a concentration within a range from about 10 ppm to about 1,000 ppm; applying an aliquot of the cleaning solution to a substrate surface for a time period; and rinsing the aliquot from the substrate surface with water to form a wash solution, as recited by claim 1 and claims dependent thereon.

Applicant further maintains that Ramachandran does not teach, show, suggest, or render obvious a method for cleaning a residue from a substrate surface, comprising combining an aqueous solution comprising sulfuric acid and hydrofluoric acid, wherein a concentration of the sulfuric acid in the aqueous solution is about 70% or less by weight, with a hydrogen peroxide solution at a predetermined weight ratio of about 1 to about 20 to form an intermediate solution at a predetermined temperature of about 3°C or less higher than temperatures of the aqueous solution and the hydrogen peroxide solution; diluting the intermediate solution with water to form a cleaning solution; exposing the substrate surface to an aliquot of the cleaning solution, wherein the cleaning solution comprises hydrogen peroxide at a concentration within a range from about 1% to about 15% by weight, sulfuric acid at a concentration within a range from about 1% to about 10% by weight, and hydrogen fluoride at a concentration within a range from about 10 ppm to about 1,000 ppm; and rinsing the substrate surface with water to remove a residue and the aliquot of the cleaning solution, as recited by claim 14 and claims dependent thereon.

Applicant respectfully requests withdrawal of the rejection of claims 1-2, 5, 9-12, 14, 20, and 24-27.

2. Reply with respect to the rejection of claims 1-2, 5, 9-12, 14, 20, and 24-27 under 35 U.S.C. § 103(a) over *Rath, et al.* (U.S. Patent No. 6,630,074).

THE EXAMINER ERRED IN REJECTING CLAIMS 1-2, 5, 9-12, 14, 20, AND 24-27 UNDER 35 U.S.C. § 103(A) BECAUSE *RATH, ET AL.* DOES NOT TEACH, SHOW, SUGGEST, OR RENDER OBVIOUS USING AN AQUEOUS SOLUTION COMPRISING SULFURIC ACID, WITH A HYDROGEN PEROXIDE SOLUTION, WHEREIN THE CONCENTRATION OF THE SULFURIC ACID IS ABOUT 70% OR

LESS BY WEIGHT, TO FORM AN INTERMEDIATE SOLUTION AT A PREDETERMINED TEMPERATURE THAT IS DILUTED TO FORM A CLEANING SOLUTION.

Rath, et al. (hereinafter "Rath I") has been discussed on the record in prior documents. As discussed above in the first argument, claims 1 and 14 require a concentration of sulfuric acid at about 70% or less by weight. Like Ramachandran, Rath I describes a method of forming a cleaning solution by mixing concentrated sulfuric acid, 98% by weight, with other components (Rath I: column 4, lines 8-15). Applicant maintains that Rath I neither teaches nor suggests any other concentrations, nor provides any motivation to use other concentrations. Further, Rath I does not teach or suggest mixing the sulfuric acid and other components to produce an intermediate solution with zero or limited temperature rise as claimed by Applicant. Therefore, Applicant maintains that Rath I does not teach, show, suggest, or make obvious mixing or combining an aqueous solution comprising sulfuric acid and hydrofluoric acid, wherein a concentration of the sulfuric acid in the aqueous solution is about 70% or less by weight, to form an intermediate solution at a predetermined temperature of about 3° C or less higher than the temperatures of the aqueous solution and the hydrogen peroxide solution.

Because Rath I does not teach or suggest all of the elements of claims 1-2, 5, 9-12, 14, 20, and 24-27, Applicant respectfully requests the rejection of those claims be withdrawn.

3. Reply with respect to the rejection of claims 1-2, 5, 9-12, 14, 20, 24-27, and 38 under 35 U.S.C. § 103(a) over *Rath, et al.* (EP-0918081).

THE EXAMINER ERRED IN REJECTING CLAIMS 1-2, 5, 9-12, 14, 20, 24-27, and 38 UNDER 35 U.S.C. § 103(A) BECAUSE *RATH, ET AL.* DOES NOT TEACH, SHOW, SUGGEST, OR RENDER OBVIOUS USING AN AQUEOUS SOLUTION COMPRISING SULFURIC ACID, WITH A HYDROGEN PEROXIDE SOLUTION, WHEREIN THE CONCENTRATION OF THE SULFURIC ACID IS ABOUT 70% OR LESS BY WEIGHT, TO FORM AN INTERMEDIATE SOLUTION AT A

PREDETERMINED TEMPERATURE THAT IS DILUTED TO FORM A CLEANING SOLUTION.

Rath, et al. (hereinafter "Rath II") has been discussed on the record in prior documents. Applicant maintains that independent claims 1, 14, and 29 require a concentration of sulfuric acid at about 70% or less by weight. Like Ramachandran and Rath I, Rath II describes a method of forming a cleaning solution by mixing concentrated sulfuric acid, 98% by weight, with other components (Rath II: column 4, lines 8-15). Applicant maintains that Rath II neither teaches nor suggests any other concentrations, nor provides any motivation to use other concentrations. Further, Rath II does not teach or suggest mixing the sulfuric acid and other components to produce an intermediate solution with zero or limited temperature rise as claimed by Applicant. Therefore, Applicant maintains that Rath II does not teach, show, suggest, or make obvious mixing or combining an aqueous solution comprising sulfuric acid and hydrofluoric acid, wherein a concentration of the sulfuric acid in the aqueous solution is about 70% or less by weight, to form an intermediate solution at a predetermined temperature of about 3° C or less higher than the temperatures of the aqueous solution and the hydrogen peroxide solution.

Because Rath II does not teach or suggest all of the elements of claims 1-2, 5, 9-12, 14, 20, 24-27, and 38, Applicant respectfully requests the rejection of those claims be withdrawn.

4. Reply with respect to the rejection of claims 1, 2, 5, 9-10, 14, 20, 24-25, and 38 under 35 U.S.C. § 103(a) over *Kuhn-Kuhnenfeld, et al.* (U.S. Patent No. 4,100,014).

THE EXAMINER ERRED IN REJECTING CLAIMS 1-2, 5, 9-12, 14, 20, 24-25, AND 38 UNDER 35 U.S.C. § 103(A) BECAUSE *KUHN-KUHNENFELD, ET AL.* DOES NOT TEACH, SHOW, SUGGEST, OR RENDER OBVIOUS USING AN AQUEOUS SOLUTION COMPRISING SULFURIC ACID, WITH A HYDROGEN PEROXIDE SOLUTION, WHEREIN THE CONCENTRATION OF THE SULFURIC ACID IS ABOUT 70% OR LESS BY WEIGHT, TO FORM AN INTERMEDIATE SOLUTION AT A

PREDETERMINED TEMPERATURE THAT IS DILUTED TO FORM A CLEANING SOLUTION.

Kuhn-Kuhnenfeld, et al. (hereinafter "Kuhn-Kuhnenfeld") has been discussed on the record in prior documents. Applicant maintains that claims 1 and 14 require a concentration of sulfuric acid at about 70% or less by weight. Like Ramachandran, Rath I, and Rath II, Kuhn-Kuhnenfeld describes a method of forming a cleaning solution that includes mixing 98% by weight of sulfuric acid with other components (Kuhn-Kuhnenfeld: column 1, lines 27-32). Applicant maintains that Kuhn-Kuhnenfeld neither teaches nor suggests any other concentrations, nor provides any motivation to use other concentrations. Further, Kuhn-Kuhnenfeld does not teach or suggest mixing the sulfuric acid and other components to produce an intermediate solution with zero or limited temperature rise as claimed by Applicant. Therefore, Applicant maintains that Kuhn-Kuhnenfeld does not teach, show, suggest, or make obvious mixing or combining an aqueous solution comprising sulfuric acid and hydrofluoric acid, wherein a concentration of the sulfuric acid in the aqueous solution is about 70% or less by weight, to form an intermediate solution at a predetermined temperature of about 3° C or less higher than the temperatures of the aqueous solution and the hydrogen peroxide solution.

Because Kuhn-Kuhnenfeld does not teach or suggest all of the elements of claims 1, 2, 5, 9-10, 14, 20, 24-25, and 38, Applicant respectfully requests the rejection of those claims be withdrawn.

5. Reply with respect to the rejection of claims 3-4, 17-19, 29-30, 34-35, 40, 42-43, and 45 under 35 U.S.C. § 103(a) over *Rath, et al.* (U.S. Patent No. 6,630,074 or EP-0918081) or *Ramachandran, et al.* (WO-02/10480) or *Kuhn-Kuhnenfeld, et al.* (U.S. Patent No. 4,100,014) in view of *Gotoh, et al.* (U.S. Patent No. 5,650,041).

THE EXAMINER ERRED IN REJECTING CLAIMS 3-4, 17-19, 29-30, 34-35, 40, 42-43, and 45 UNDER 35 U.S.C. § 103(A) BECAUSE RATH, ET AL., OR RAMACHANDRAN, ET AL., OR KUHN-KUHNENFELD, ET AL., IN VIEW OF GOTOH, ET AL., DOES NOT TEACH, SHOW, SUGGEST, OR RENDER OBVIOUS USING AN

AQUEOUS SOLUTION COMPRISING SULFURIC ACID, WITH A HYDROGEN PEROXIDE SOLUTION, WHEREIN THE CONCENTRATION OF THE SULFURIC ACID IS ABOUT 70% OR LESS BY WEIGHT, TO FORM AN INTERMEDIATE SOLUTION AT A PREDETERMINED TEMPERATURE THAT IS DILUTED TO FORM A CLEANING SOLUTION.

Ramachandran, Rath I, Rath II, Kuhn-Kuhnenfeld, and *Gotoh, et al.* (hereinafter "Gotoh") have been discussed on the record in prior documents. Applicant maintains that claims 1, 14, and 29 require a concentration of sulfuric acid at about 70% or less by weight. As discussed above, Rath I, Rath II, Ramachandran, and Kuhn-Kuhnenfeld, do not teach or suggest all of the elements of independent claims 1, 14, and 29 because Rath I, Rath II, Ramachandran, and Kuhn-Kuhnenfeld, do not teach or suggest mixing or combining an aqueous solution comprising dilute sulfuric acid and hydrofluoric acid with zero or limited temperature rise. Applicant maintains that Gotoh does not remedy the deficiency of Rath I, Rath II, Ramachandran, and Kuhn-Kuhnenfeld. Therefore, Applicant maintains that Gotoh, individually or in combination with Rath I, Rath II, Ramachandran, and Kuhn-Kuhnenfeld, does not teach, show, suggest, or make obvious mixing or combining an aqueous solution comprising sulfuric acid and hydrofluoric acid, wherein a concentration of the sulfuric acid in the aqueous solution is about 70% or less by weight, to form an intermediate solution at a predetermined temperature of about 3° C or less higher than the temperatures of the aqueous solution and the hydrogen peroxide solution.

Because Rath I, Rath II, Ramachandran, or Kuhn-Kuhnenfeld, in view of Gotoh, does not teach or suggest all of the elements of claims 3-4, 17-19, 29-30, 34-35, 40, 42-43, and 45, Applicant respectfully requests the rejection of those claims be withdrawn.

6. Reply with respect to the rejection of claims 13 and 28 under 35 U.S.C. § 103(a) over *Rath, et al.* (U.S. Patent No. 6,630,074 and EP-0918081) or *Ramachandran, et al.* (WO-02/10480) in view of *Gotoh, et al.* (U.S. Patent No. 5,650,041), and further in view of *Oonishi, et al.* (U.S. Patent No. 6,273,959).

THE EXAMINER ERRED IN REJECTING CLAIMS 13 AND 28 UNDER 35 U.S.C. § 103(A) BECAUSE *RATH, ET AL.*, OR *RAMACHANDRAN, ET AL.*, IN VIEW OF *GOTOH, ET AL.*, AND FURTHER IN VIEW OF *OONISHI, ET AL.*, DOES NOT TEACH, SHOW, SUGGEST, OR RENDER OBVIOUS USING AN AQUEOUS SOLUTION COMPRISING SULFURIC ACID, WITH A HYDROGEN PEROXIDE SOLUTION, WHEREIN THE CONCENTRATION OF THE SULFURIC ACID IS ABOUT 70% OR LESS BY WEIGHT, TO FORM AN INTERMEDIATE SOLUTION AT A PREDETERMINED TEMPERATURE THAT IS DILUTED TO FORM A CLEANING SOLUTION.

Ramachandran, Rath I, Rath II, Gotoh, and *Oonishi, et al.* (hereinafter "Oonishi") have been discussed on the record in prior documents. Applicant maintains that claims 13 and 28 require a concentration of sulfuric acid at about 70% or less by weight. As discussed above in the previous arguments, Rath I, Rath II, Ramachandran, Gotoh, and Oonishi, do not teach or suggest all of the elements of independent claims 13 and 28 because Rath I, Rath II, Ramachandran, Gotoh, and Oonishi, do not teach or suggest mixing or combining an aqueous solution comprising dilute sulfuric acid and hydrofluoric acid with zero or limited temperature rise. Therefore, Applicant maintains that Oonishi, individually or in combination with Rath I, Rath II, Ramachandran, and Gotoh, does not teach, show, suggest, or make obvious mixing or combining an aqueous solution comprising sulfuric acid and hydrofluoric acid, wherein a concentration of the sulfuric acid in the aqueous solution is about 70% or less by weight, to form an intermediate solution at a predetermined temperature of about 3° C or less higher than the temperatures of the aqueous solution and the hydrogen peroxide solution.

Because Rath I, Rath II, Ramachandran, or Gotoh, in view of Oonishi, does not teach or suggest all of the elements of claims 13 and 28, Applicant respectfully requests the rejection of those claims be withdrawn.

7. Argument with respect to the new rejection of claims 36 and 37 under 35 U.S.C. § 103(a) over *Rath, et al.* (U.S. Patent No. 6,630,074 and EP-0918081) or *Ramachandran, et al.* (WO-02/10480) in view of *Gotoh, et al.* (U.S. Patent No. 5,650,041), and further in view of *Oonishi, et al.* (U.S. Patent No. 6,273,959).

THE EXAMINER ERRED IN REJECTING CLAIMS 36 AND 37 UNDER 35 U.S.C. § 103(A) BECAUSE *RATH, ET AL.*, OR *RAMACHANDRAN, ET AL.*, IN VIEW OF *GOTOH, ET AL.*, AND FURTHER IN VIEW OF *OONISHI, ET AL.*, DOES NOT TEACH, SHOW, SUGGEST, OR RENDER OBVIOUS USING AN AQUEOUS SOLUTION COMPRISING SULFURIC ACID, WITH A HYDROGEN PEROXIDE SOLUTION, WHEREIN THE CONCENTRATION OF THE SULFURIC ACID IS ABOUT 70% OR LESS BY WEIGHT, TO FORM AN INTERMEDIATE SOLUTION AT A PREDETERMINED TEMPERATURE THAT IS DILUTED TO FORM A CLEANING SOLUTION.

This ground of rejection originally appeared in the Examiner's Answer, dated July 11, 2007, to Applicant's original Appeal Brief, dated March 2, 2007. Applicant responded in a Substitute Appeal Brief dated September 10, 2007, and the Examiner maintained the rejection in his Answer dated November 5, 2007.

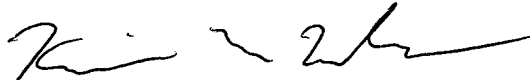
Ramachandran, Rath I, Rath II, Gotoh, and *Oonishi, et al.* (hereinafter "Oonishi") have been discussed on the record in prior documents. Applicant maintains that claims 36 and 37 require a concentration of sulfuric acid at about 70% or less by weight. As discussed above in the previous arguments, Rath I, Rath II, Ramachandran, Gotoh, and Oonishi, do not teach or suggest all of the elements of independent claims 36 and 37 because Rath I, Rath II, Ramachandran, Gotoh, and Oonishi, do not teach or suggest mixing or combining an aqueous solution comprising dilute sulfuric acid and hydrofluoric acid with zero or limited temperature rise. Therefore, Applicant maintains that Oonishi, individually or in combination with Rath I, Rath II, Ramachandran, and Gotoh, does not teach, show, suggest, or make obvious mixing or combining an aqueous solution comprising sulfuric acid and hydrofluoric acid, wherein a concentration of the sulfuric acid in the aqueous solution is about 70% or less by weight, to form an intermediate solution at a predetermined temperature of about 3° C or less higher than the temperatures of the aqueous solution and the hydrogen peroxide solution.

Because Rath I, Rath II, Ramachandran, or Gotoh, in view of Oonishi, does not teach or suggest all of the elements of claims 36 and 37, Applicant respectfully requests the rejection of those claims be withdrawn.

Conclusion

For the reasons presented above, Applicant respectfully submits that the rejection of claims 1-5, 9-14, 17-20, 24-30, 34-38, 40, 42, 43, and 45 under 35 U.S.C. § 103(a) is improper. Reversal of the rejection of the claims is respectfully requested.

Respectfully submitted,



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